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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,192	06/26/2000	THOMAS JUNG	SPM-290-A	9266

7590 06/10/2003  
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TROY, MI 48084

EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/529,192

Applicant(s)

JUNG ET AL.

Examiner

Wesley D Markham

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 May 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: see attached Office Action.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1,4-9 and 12-36.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_.

  
WDM

**DETAILED ACTION / ADVISORY ACTION**

***Response to Amendment***

1. Acknowledgement is made of applicant's proposed amendment G, filed as paper #25 on 5/12/2003, in which the applicant proposed to amend the specification of the instant application and to amend independent Claim 1, Claim 9, independent Claim 14, Claim 22, independent Claims 23 and 24, and Claim 33. However, this amendment has not been entered for the following reasons. First, the proposed amendment was submitted in the "Voluntary Revised Amendment Format". This format requires that a complete listing of all of the claims be present in the amendment paper. The applicant's amendment does not provide this complete listing because the amendment presents all claims except those claims which are canceled. The canceled claims must also be present in the complete claim listing. Therefore, the applicant's proposed amendment G is non-compliant and has not been entered. Second, the applicant's proposed amendment G has not been entered because it raises new issues that would require further searching and/or consideration on the part of the examiner. For example, the applicant proposed to delete the word "applied" from Claim 9. This proposed amendment would alter the scope of Claim 9 because, instead of an applied voltage being between 1 and 3000 volts, proposed amended Claim 9 would be open to a voltage that is not applied but is simply present between the substrate and the plasma due to other process steps. The applicant also proposed to significantly amend Claim 22 by deleting the limitation "near" and further defining the location / arrangement of the deflection

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elements in the device. This would change the scope of Claim 22. Further and regarding independent Claims 23 and 24, the applicant proposed to delete the limitations that "means for activating said discharge" (Claim 23) and "means for supplying electrical energy" (Claim 24) are integrated outside of the discharge region. This significantly broadens the scope of independent Claims 23 and 24 and any claims dependent therefrom. For all of the above noted reasons, entry of applicant's proposed amendment G would require further searching and consideration on the part of the examiner, and therefore the proposed amendment has not been entered.

### ***Response to Arguments***

2. The applicant's arguments filed on 5/12/2003 have been fully considered but are not persuasive. Specifically, the majority of the applicant's arguments are drawn to the claims as proposed in amendment G. Since this amendment has not been entered for the reasons set forth above in paragraph 1, the applicant's arguments drawn to the claims as proposed in amendment G are moot.
3. Regarding independent Claim 1, the applicant does argue that, since the inside and outside of the tube "7" are both coated, Yamada fails to teach or suggest the step of restricting the discharge region on at least two opposite sides by surfaces to be treated. In response, the examiner disagrees with the applicant's argument. For example, Yamada teaches that a hollow-cathode discharge is generated inside of the electrically conductive tube "7" (page 3, paragraph 3, and page 4, "Working

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Example", of the translation of Yamada (JP 63-026373 A) provided by the applicant).

Thus, the region inside of the electrically conductive tube is a "discharge region".

Since the tube walls completely surround the region inside of the tube (i.e., the aforementioned "discharge region"), the tube restricts the discharge region on at least two opposite sides (i.e., all sides surrounded by the tube walls) by surfaces to be treated (i.e., the surfaces / walls of the tube to be coated). Simply because a coating is also formed on the outside of the tube in the process of Yamada does not mean that the discharge region inside of the tube is not restricted by the tube. In other words, the applicant's claims are open to "discharge regions" other than the "discharge region" restricted by the substrate surfaces being present in the process.

4. Regarding dependent Claim 4, the applicant argues that a tube is not a "band-shaped substrate" because a band-shaped substrate is known by those of skill in the art as a substrate that can be wound onto and unwound from spools and is in the form of a continuous sheet. In response, the examiner disagrees. Specifically, the examiner has reviewed the applicant's specification and found no definition of a "band-shaped substrate", only several embodiments showing examples of "band-shaped substrates". Additionally, the examiner notes that the applicant has presented numerous dependent claims (none of which are rejected over Yamada) more specifically defining the "band-shaped substrate" and how it can be wound onto and unwound from spools (see, for example, Claims 5, 18 – 20, 27, 30 – 33, 35, and 36). Therefore, it is clear that the broader term / limitation "band-shaped substrate" is not intended by the applicant to be limited to a substrate that can be

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wound onto and unwound from spools and is in the form of a continuous sheet. As such, the examiner maintains that a tube is nothing more than a band that has been given a desired shape and curvature, and the tube of Yamada has been broadly but reasonably interpreted to be "band-shaped". Please note that, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Regarding Claim 8, the applicant argues that Yamada does not show that the tube "7" (i.e., the substrate) is grounded – instead, vessel "1" is connected to a ground.

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The applicant goes on to state that the specification uses "grounded" in its most common sense to those of skill in the art. That is, the substrate forms the cathode; the anode is at a higher potential; when the cathode is grounded, it is at ground potential, and the anode is at a positive potential with respect to ground. In response, the examiner disagrees with the applicant's argument. Since the substrate of Yamada is connected to ground, albeit indirectly, the substrate is reasonably construed to be "grounded". Regarding the applicant's arguments drawn to the relative potentials of the cathode and an anode in the claimed process, the examiner notes that an anode is not recited in either Claim 8 or Claim 1 (from which Claim 8 depends). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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6. Regarding Claim 9, the applicant argues that Yamada fails to teach or suggest that the voltage between the tube (i.e., the substrate) and plasma is between 1 and 3000 volts. In response, the examiner disagrees. Yamada teaches that a DC bias voltage of 300 to 450 volts (i.e., a value within the applicant's claimed range) is applied to the tube (i.e., the substrate). This is clearly the magnitude of the voltage between the tube and the plasma, hence the term "bias voltage".
7. Regarding Claim 14, the applicant argues that Yamada fails to teach or suggest the feature of an anode placed proximate to the at least one substrate. Specifically, the applicant argues that the vacuum chamber in Yamada acts as the anode, while the anode in Claim 14 is a separate element from the vacuum chamber. In response, the examiner notes that applicant's Claim 14 does not require the anode to be separate from the vacuum chamber or exclude the vacuum chamber from acting as the anode.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (703) 308-7557. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

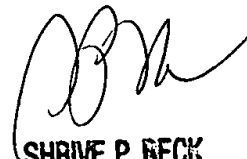
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Wesley D Markham  
Examiner  
Art Unit 1762



WDM  
June 6, 2003

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**SHRIVE P. BECK**  
**SUPERVISORY PATENT EXAMINER**  
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